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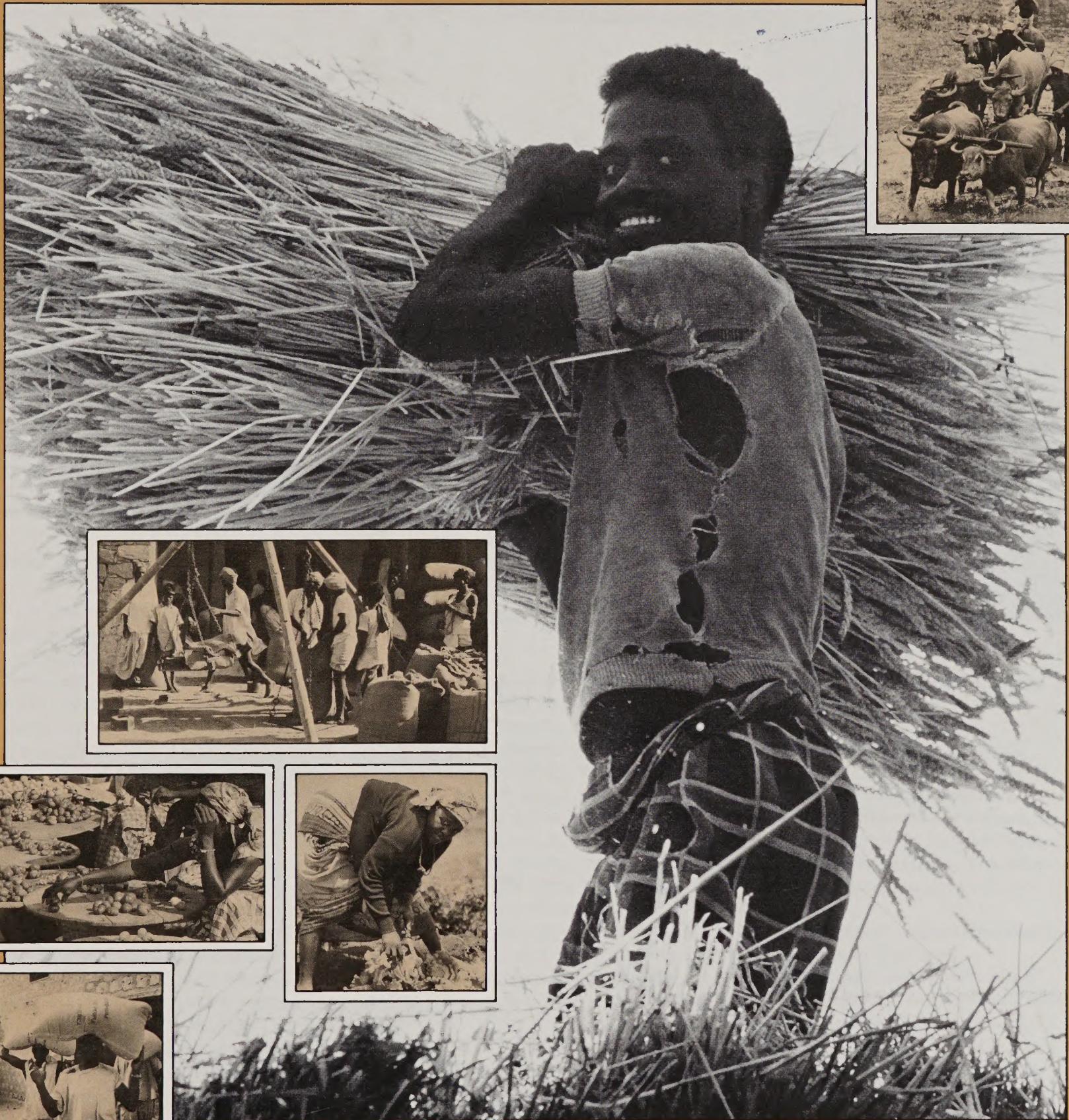
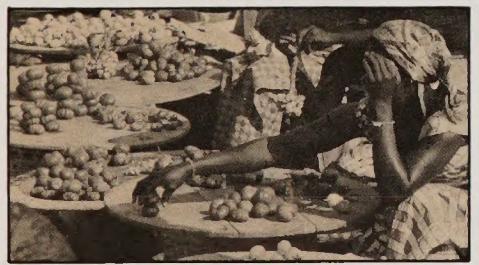
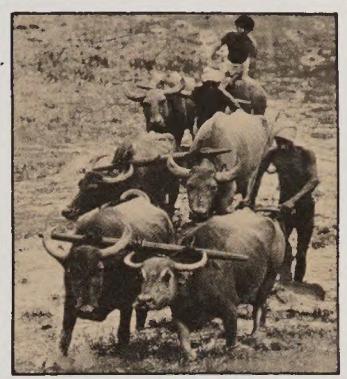


and Development

International Programs in Agriculture

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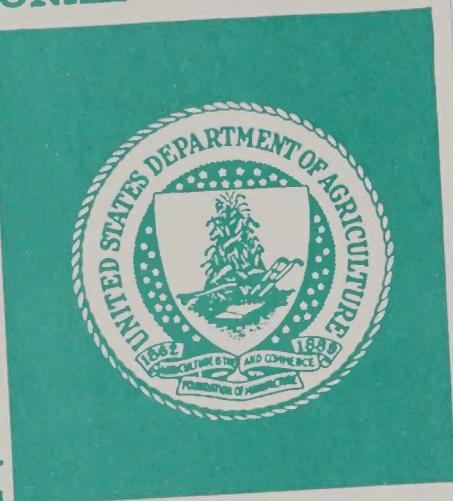


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USDA's International Programs in Agriculture

In the last minute nearly 250 people were born. By this time tomorrow, there will be 300,000 more. By the year 2000, the world's population will climb to 6 billion. Feeding all these people is one of the biggest challenges we face today.

Producing enough food and seeing that it reaches all who need it is a complex task. USDA's international programs are aimed at making that task easier for farmers and businesses here in the United States and in less developed countries.

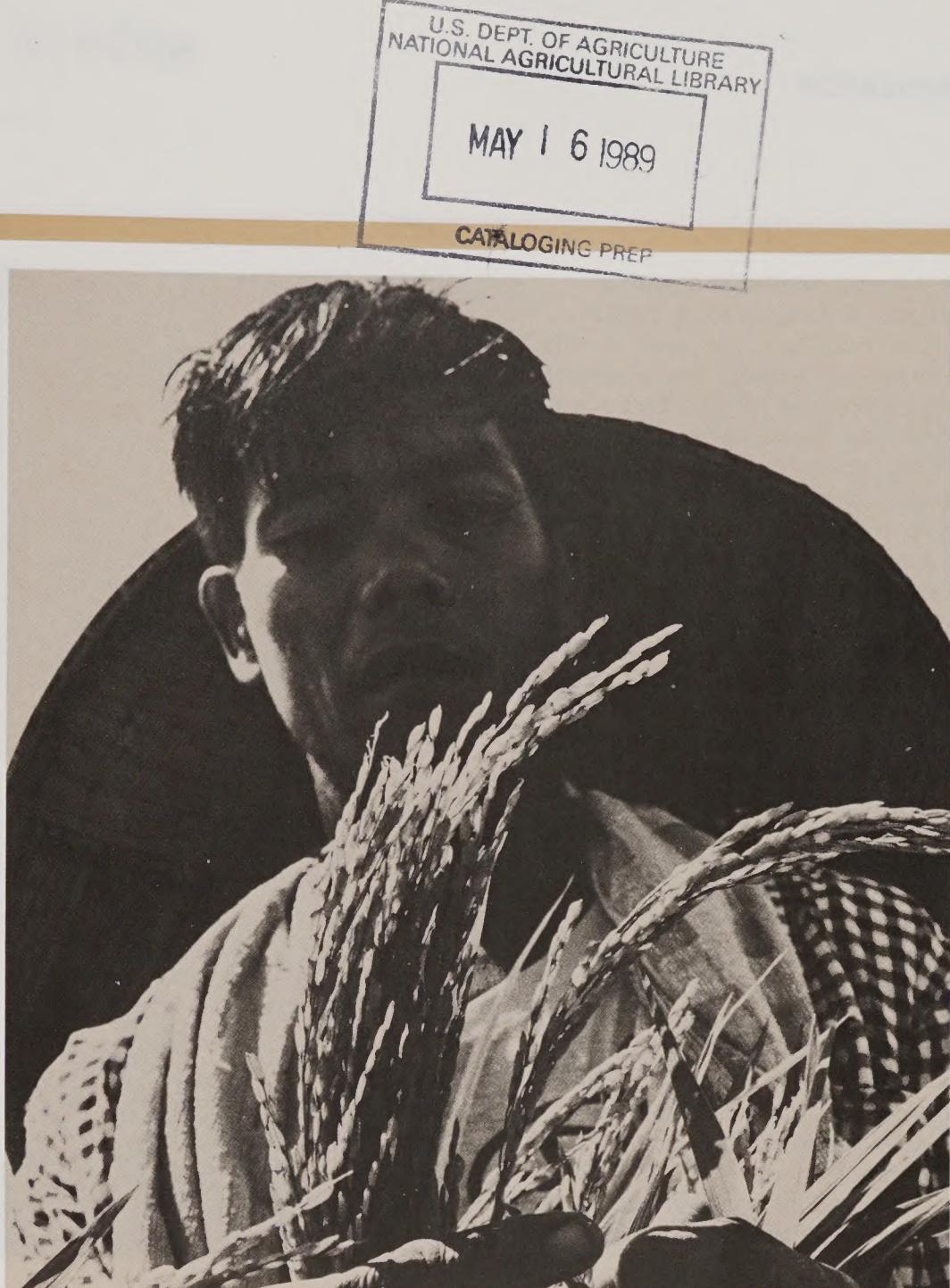
Overseeing these international programs is the job of the Department's **Office of International Cooperation and Development (OICD)**.

OICD's programs all have one underlying theme—sharing knowledge. By assisting and cooperating with other nations, we can both give and receive valuable knowledge about agriculture. All of our international programs—research, scientific exchanges, training, and technical assistance—are geared toward strengthening agriculture worldwide.

How We Started

In the decades since World War II, the United States has taken the lead technologically, economically, and politically in trying to solve world food problems. U.S. food aid and technical assistance have been in the forefront of the struggle to build food output and overcome the hunger and malnutrition that still afflict nearly a half billion people all over the globe.

The Department of Agriculture has played a pivotal role in U.S. activities designed to strengthen world food production. Through the "Food for Peace" Program and thousands of technical assistance and training projects, USDA has done a great deal over the years to help other nations build their agriculture and become more self-reliant.



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CATALOGING PREP

USDA's overseas activities now extend beyond aid and assistance and include a growing network of scientific and technical exchanges, international research, training, and involvement with international agricultural organizations. These programs are designed to enhance the production and distribution of food worldwide. At the same time, they improve relations between the United States and other countries, both developing and developed, and help reduce barriers to agricultural trade.

OICD Manages a Broad Variety of Programs

- **Technical assistance** projects, mostly in the developing nations of Africa, Asia, and Latin America.
- **Training** courses in agriculture for students from nearly 100 countries.
- Work with **international organizations** to help solve world food problems.
- Involving private **agribusinesses** in U.S. development efforts.
- **Scientific exchanges** with other countries that help farmers here and abroad and strengthen trade and political cooperation.
- **Research** aimed at curbing crop and livestock diseases and improving food production and distribution.

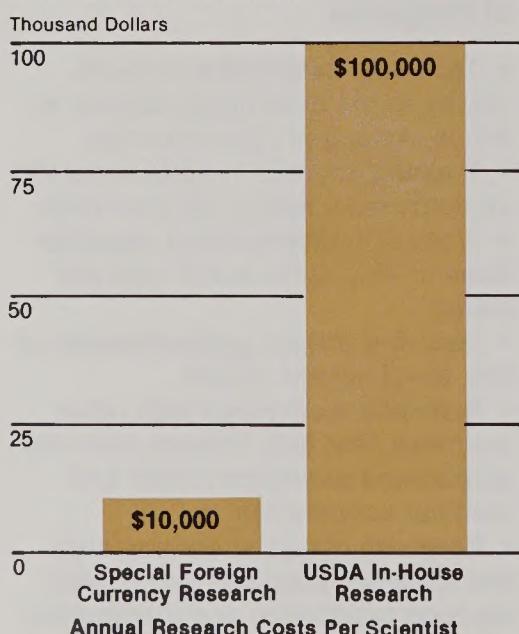
Lemons sealed in a special plastic wrap keep for 9 months, while untreated ones spoil in only 3. Grapefruit sealed in the wrap last for half a year, double the normal shelf life. Developed by U.S. and Israeli scientists, this new wrap can reduce decay and save exporters the cost of refrigeration. It is just one example of the practical benefits international research has for both consumers and businesses. Scientists who developed the wrap were brought together by OICD's international research staff.

By promoting cooperation among agricultural researchers around the globe, OICD:

- Strengthens scientific ties with other nations.
- Cuts the cost of research in the United States.
- Broadens the horizons of our scientists by exposing them to materials, environments, and techniques in other countries.
- Breaks down artificial trade restrictions caused by a lack of understanding of U.S. science and technology.
- Develops information that can be used to curb pests and diseases



USDA Profits From Lower Costs of International Research



that prey on crops, farm animals, and even urban trees.

Collaboration

To make the most of the best minds in agricultural research, OICD sponsors U.S. scientists who work on projects with their foreign colleagues. Among the nations that have collaborated with the United States in this way are:

- | | |
|---|---|
| <ul style="list-style-type: none"> • Germany • Australia • New Zealand | <ul style="list-style-type: none"> • Mexico • Brazil • The Netherlands |
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Foreign Currency Research

Under a little known provision of the "Food for Peace" Program, USDA can use U.S.-owned foreign currencies to support cooperative research on agriculture overseas. Scientists in India, Pakistan, Egypt, Costa Rica, and Yugoslavia are now working with U.S. colleagues on over 147 research projects under this program. This overseas research is both inexpensive and of great value to U.S. farmers and agribusinesses.

Special Foreign Currency (SFC) research in Egypt has improved sterile insect techniques used to control the destructive Medfly, while SFC researchers working in Yugoslavia and Pakistan are providing important information on the transmission of livestock diseases



in embryo transfer—a topic of major interest to U.S. livestock breeders. In another project dealing with livestock, Yugoslav and U.S. scientists have developed the first valid test for detecting listeriosis in cattle. Listeriosis is a serious bacterial disease that also affects humans. Recent outbreaks of the disease claimed scores of lives in California and Massachusetts.

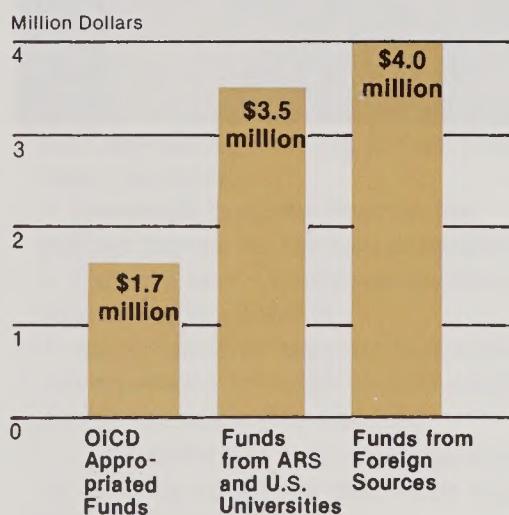
Other noteworthy SFC research now underway focuses on Karnal bunt, a devastating fungal disease of wheat recently found in Mexico that now threatens U.S. farmers, and on mite infestation of bees, which has become a serious problem, especially in Florida.

Jointly Funded Research

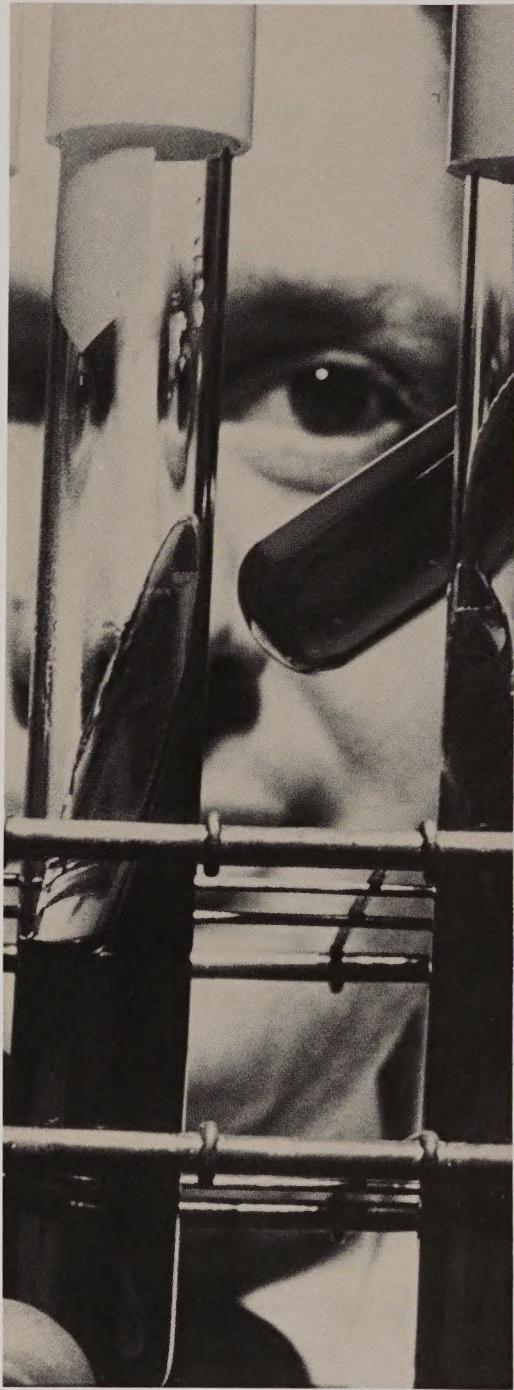
Successful foreign currency research programs have led to jointly funded agricultural research by the United States and other nations. Special agreements on science and technology now support joint research by scientists in the United States and:

- Poland
- Yugoslavia
- Israel
- Spain
- Japan

Binational Research Programs



For each dollar OICD spends on binational research, more than four dollars are contributed from other sources.



A new three-way Trinational Program joins Israel, Egypt, and the United States in research focused mostly on farming in desert regions. Among the topics scientists will study are water use and cropping techniques, solar heating of soils to control fungal diseases and weeds, and medicinal uses of desert plants.

Support from Other Organizations

In managing USDA's research with other countries, OICD has marshaled the support of other government agencies, international organizations, universities, and other institutions. These include:

- USDA research and education agencies
- The International Science and Education Council (ISEC)
- The Joint Council on Food and Agricultural Sciences
- The Board for International Food and Agricultural Development (BIFAD) in the U.S. Agency for International Development
- BIFAD's Joint Committee on Agricultural Research and Development.

TRAINING

Several years after earning a master's degree at a U.S. university, a young man from Sudan proudly wrote to the USDA official who arranged his training:

"I would like to register my appreciation for the aid given to my country through me. It will not be a waste. I assure you."

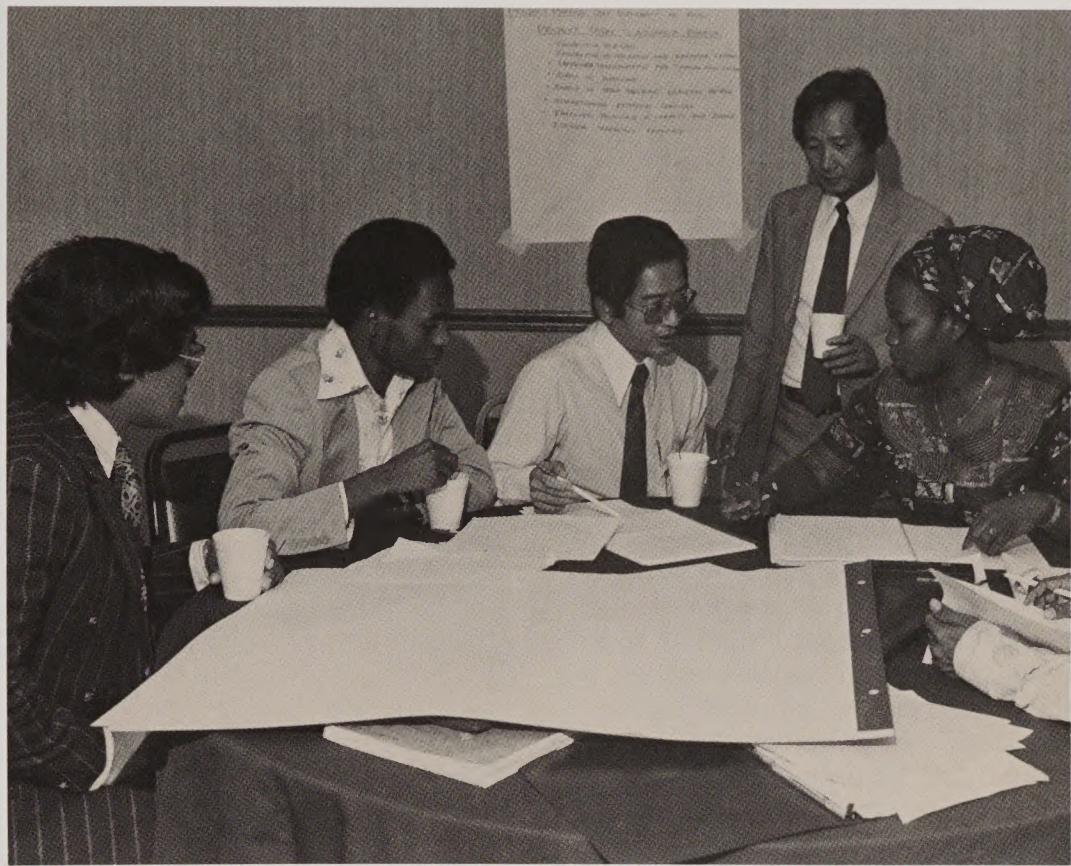
The letter was signed, "Caesar Bayeh, Minister of Agriculture, Equatorial Region of Sudan."

Mr. Bayeh earned a master of science degree in horticulture here in December 1981. He is just one of many U.S.-trained students who have returned to their home countries and risen to positions of leadership.

For over 30 years, people from developing countries have turned to USDA for training in agriculture and rural development. Over 75,000 students have gone through training sponsored by the Department since the early 1950's.

Like Caesar Bayeh, many of these people have gone on to serve in high positions as friends of the United States. For example, in the last few years, the agricultural attache for the Korean Embassy in Washington, Thailand's Deputy Minister for Agriculture, and an assistant to the President of Tanzania have all participated in OICD's training programs. Their influence can be felt both in their nations' decisions on agricultural development and on international trade, an area critical for U.S. farmers. As we train more and more foreign agriculturalists, the list of national leaders among OICD "alumni" grows steadily from year to year, improving U.S. ties to countries all over the developing world.

OICD tailors individualized training for about 2,000 agriculturalists a year. Many participants pursue bachelor's or advanced degrees. Others gain new knowledge through research programs, short-term technical training, and practical work in government agencies or on



farms. We also offer some 50 courses a year in the United States for about 700 foreign scientists, administrators, and technicians and sponsor courses for an equal number of students overseas.

The Agency for International Development (AID) pays for about 70 percent of OICD's training and the Food and Agriculture Organization (FAO) about 25 percent. Other students are sponsored by international development banks; foreign governments such as Saudi Arabia and Nigeria; foundations; and private organizations.

OICD's international training staff offers:

- Training in agriculture in the United States and in developing nations, including short courses and "hands-on" learning opportunities in technical areas and management.
- Individualized study programs in agriculture and rural development at U.S. universities for students from overseas.
- Help with designing, planning, and evaluating training for development projects.
- Research opportunities in the United States for foreign scientists.
- Experts who can advise on long-term training projects.
- Administrative support and onsite management for large development programs related to training.
- Consultants to help managers in developing countries plan their staff training programs.
- Study tours so foreign officials can observe how agricultural institutions work in the United States.

Short Courses

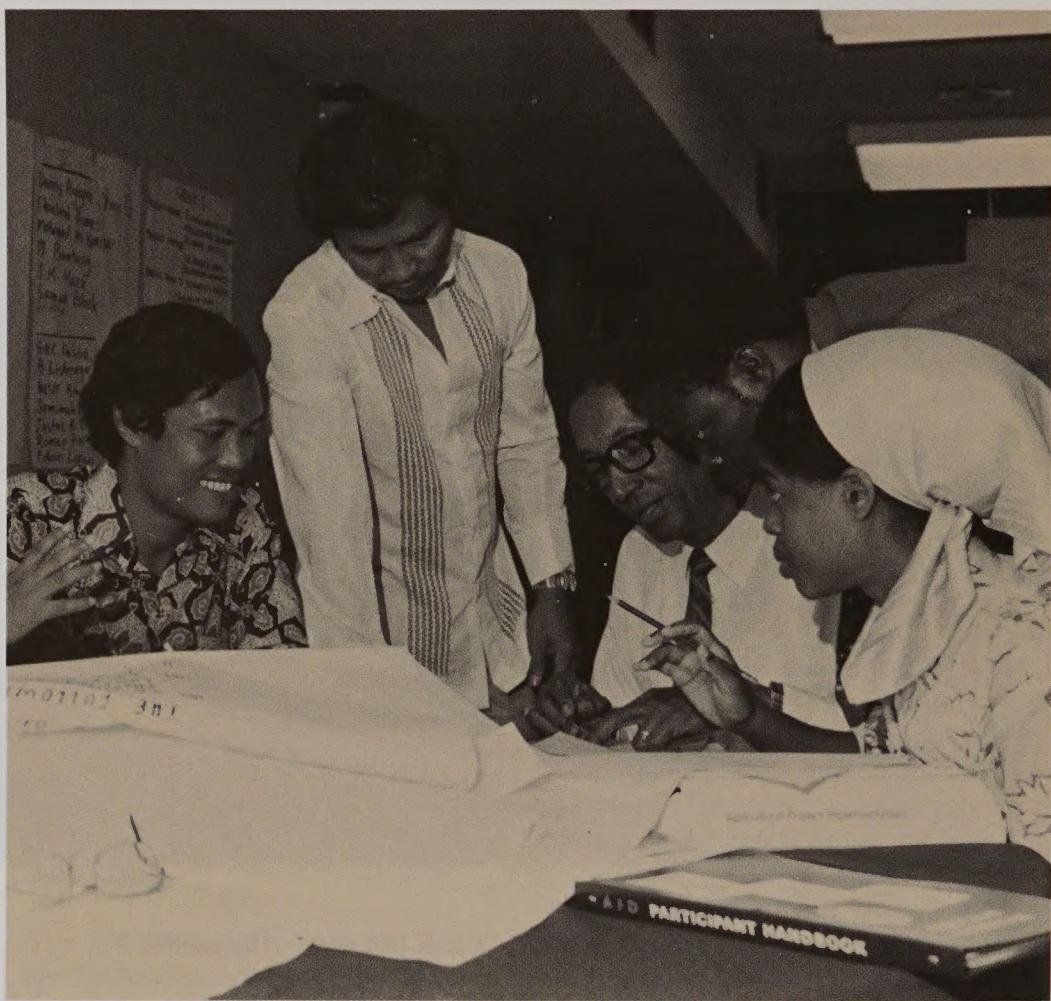
OICD offers short courses taught by experts from USDA, U.S. universities, and the private sector in:

- Animal sciences, natural resources, and agronomy
- Economics and agricultural policy
- Management, education, and human resource development
- Food production and technology.

OICD training is not an "ivory tower" experience. It's intended to be practical, allowing participants to acquire skills they can use on their jobs. In fact, the demand for skilled people in developing countries is so great, most participants wind up using what they learned much faster than they ever anticipated. For example, just 3 months after a woman from Sri Lanka attended our special course for women managers, she was called on to head the rural development office in her country. She had never imagined she would be given such a high level of responsibility so quickly.

Individualized Training

Training means fulfilling special needs, so OICD tries to find the best learning opportunities for each foreign student. Most of our training staff concentrates on arranging individualized programs at U.S. universities, private agribusiness firms, or with Federal agencies. In so doing, they spend time getting to know the participants and handling any special needs which may arise.



Overseas Courses

If a foreign government wishes to train a large group of people, OICD can send instructors overseas. In recent years, our overseas courses have included everything from statistics to soil surveys, and project planning and analysis. Courses have been held in over a dozen countries in Asia, Africa, and South America.

Training Trainers

Self-help is the underlying theme of one of OICD's most successful programs—the training of trainers. To strengthen the impact of our technical and management courses, OICD strives to develop training skills in foreign participants so they can pass on what they have learned to their co-workers at home.

Managing Training Projects Overseas

Training people in how to train others is also a vital part of many of the large overseas training projects that we design and carry out in countries such as Tanzania and Indonesia. Training for rural development, for example, is a demonstration project in Tanzania to train villagers in how to train others to improve livestock and crop production. The approach is to encourage rural farmers to determine their own needs. Although much of the learning takes place locally, village leaders can take part in demonstration projects and learn management skills at a Training for Rural Development Center.



Short-term Experts

OICD sends professionals skilled in education and training on short assignments to survey the needs of developing countries, plan training programs, and offer management advice. Such experts have, for example, designed and arranged training projects for the Sudan, Guatemala, and Zaire and conducted training surveys for Tanzania.

Strengthening Agricultural Organizations

Developing countries need the best possible managers and technical staff to spearhead self-help measures and solve their food problems. OICD stands ready to help nations working to improve their agricultural ministries and related organizations.

OICD's overseas courses, individual degree programs at U.S. universities, and training of trainers can all contribute to improving the staffs of agricultural organizations in the developing world.

Research Opportunities

In cooperation with USDA's Agricultural Research Service, OICD gives scientists from developing countries the chance to work with U.S. colleagues on research projects in laboratories here in the United States. More than 200 fields of inquiry are open in such areas as biological control of pests, plant and animal diseases, and reduction of postharvest losses. Scientists may work on projects for 6 months to a year, while taking advantage of other OICD training opportunities for a more fully rewarding stay.



Caribbean Basin Initiative

The agricultural aspects of the Caribbean Basin Initiative (CBI) are the major focus of OICD's Office of Private Sector Relations. Under the Initiative, the United States is offering a one-way free-trade zone for over 20 Caribbean Basin countries. The goal is to strengthen economic and political development throughout the Caribbean and Central America.

Under the CBI, the Department is encouraging joint ventures between U.S. companies and Caribbean businesses, and the Secretary of Agriculture has appointed an Agribusiness Promotion Council from the U.S. private sector to

spearhead this effort. OICD provides extensive staff support for this council and operates an Agribusiness Information Center to gather background data and technical information for interested U.S. investors.

On the recommendation of the Agribusiness Promotion Council, OICD has arranged a series of agricultural marketing workshops. Held in Miami, Central America, New Orleans, and the Caribbean, the workshops have been attended by over 2,000 U.S. business people and marketing managers from countries throughout the Caribbean Basin.



Cancun Agricultural Development Efforts

At a 1981 conference in Cancun, Mexico, President Reagan offered to send U.S. task forces to help solve agricultural problems in developing countries. Since then, OICD has helped the Agency for International Development organize and staff task forces to Honduras, Peru, Liberia, and Thailand.



We took the lead in putting together a Presidential Agricultural Task Force to Venezuela and as a result of its visit, the Venezuela-United States Commission on Agriculture was established to exchange information on agricultural marketing, research, and technology.

TECHNICAL ASSISTANCE

Thousands of infants in the small nation of Sri Lanka will no longer suffer from malnutrition, thanks to low-cost extrusion cooking, a process designed here in the United States. Through a nutrition project managed by OICD, the Sri Lankans now use this cooking technique to produce a weaning food for children, a protein-rich blend of corn and soy meal.

The Sri Lankan nutrition project is just one of hundreds of technical assistance efforts we manage. OICD helps developing countries become more self-reliant in producing food and fiber from limited resources and improve their food processing and distribution. We gather experts from USDA agencies, agricultural universities, and private industry to give these countries sound advice on how they can improve their agriculture. The U.S. Agency for International Development, international organizations, and the developing countries themselves can call on OICD to help fight hunger, poverty, and illness. All assistance is provided on a reimbursable basis.

Help is available on everything from basic food production to national economic planning. Each year, OICD sends more than 800 people to help over 80 countries. About 70 percent of the scientists and technicians we send are from USDA, many of them from OICD. The remaining 30 percent are from universities and other sources, including private businesses.



OICD's technical assistance activities help developing countries to:

- Find skilled people to help solve their agricultural problems.
- Increase their ability to use the latest research data and technology.
- Strengthen their institutions dealing with agricultural production, distribution, and resource management.
- Plan and carry out agricultural and rural development programs emphasizing the use of low-cost technology.
- Improve their food technology, marketing, and distribution of low-cost, nutritious foods through research and development.
- Evaluate the economic effects of government policies and programs on nutrition.



Helping developing countries improve their agricultural productivity also helps the United States in the long run. Studies have shown that as countries become more prosperous they also become more politically stable and better trading partners. Furthermore, by helping developing nations, we often learn ways to improve the management of our own resources here in the United States, particularly on small family farms.

Battling African swine fever in the Caribbean, finding new ways to feed hungry infants, helping farmers



plant their crops in dry lands—those are all ways in which OICD has become involved in marshaling aid for emerging nations. We are involved in technical assistance projects all over the globe—in Africa, Asia, Latin America, and the Middle East.

A special unit of management consultants at the Development Project Management Center gives valuable advice to governments of developing countries on how to deliver more efficient services to

farmers and other rural people. This unit pioneered the use of minicomputers in agricultural management in the African Sahel region.

The examples that follow should give you a better idea of how our technical assistance projects help people throughout the developing world. They show how OICD enlists U.S. talent to help poorer countries help themselves.

Managing Natural Resources

The loss of forests and encroaching deserts are two factors that weigh heavily on the future of farming in many developing countries. In parts of China, wood supplies are so scarce workers vie for the wood in shipping crates. Because they lack fuelwood, millions of West African villagers cook just once a day or sometimes only every other day. The inability to cook food properly or boil water often contributes to the spread of disease.

But forests can be preserved and deserts contained using modern techniques for resource management. One goal of OICD's technical assistance programs is to give developing countries access to the latest advances in managing natural resources. Through the Forestry Support Program, we maintain a roster of experts from USDA's Forest Service, private businesses, and universities. The Agency for International Development funds the program and when they need advisors, we draw on this roster to put together technical assistance teams.

Similarly, OICD taps the USDA Soil Conservation Service and other sources for projects aimed at preserving the soil. Conservationists and trainers from USDA recently helped the Dominican Republic start up a natural resources program geared to preserve its soil and water resources.

Combating Pests

Another way OICD has aided the poorer countries of the world is by providing technical experts from USDA's Animal and Plant Health Inspection Service (APHIS). These experts help farmers fight insects that threaten crops and overcome diseases that often ravage livestock in the developing world.



Several years ago, when an outbreak of African swine fever in Haiti threatened to spread elsewhere in the Western Hemisphere, OICD asked APHIS to combat the disease on behalf of the Food and Agriculture Organization of the United Nations. Thanks to APHIS' work, the disease was successfully contained.

In the drought-stricken region south of the Sahara desert, known as the Sahel, insects plague crops that manage to withstand the harsh climate. So we sent APHIS personnel to help curb the insect pests and protect crops in this part of Africa. USDA's Agricultural Research Service has also offered the services of its technicians and scientists to OICD for assignments to improve crop protection in the troubled Sahelian region.



Agricultural Research

Agricultural research in the United States has earned its reputation as the best in the world, and OICD is trying to put this research to work for the people of developing countries. In a number of projects, we've called on the Agricultural Research Service (ARS) to aid in the search for new ways to improve crop production.

In Kenya, for example, ARS scientists are helping research and extension efforts to raise the productivity of farming in dry lands marginally suited for raising food crops. Much of Africa is affected by periodic drought, making this project that much more important for millions of the continent's farmers.

Statistical and Economic Studies

While agricultural researchers strive to improve farming techniques in the developing world, other experts in economics, statistics, and the social sciences are playing a crucial role as policy advisors. These experts offer governments of developing nations the help they often need in agricultural planning and policymaking and in adopting more sophisticated statistical procedures.

Through OICD's efforts, the staff of USDA's Statistical Reporting Service has helped developing countries make more accurate and timely crop estimates. U.S. statisticians have assisted numerous countries in using satellite photography and remote sensing techniques to improve their crop forecasting. Morocco, the Philippines, and Jamaica are just a few of the countries that have benefited.

A nation's agricultural policies often spell the difference between a strong farm economy and a weak one. Experts from USDA's Economic Research Service (ERS) are helping agricultural leaders overseas lay a strong foundation for policymaking. In Pakistan, ERS experts are helping design an economic analysis agency, modeled on ERS itself. The new agency will help the Pakistanis analyze the best course to follow in designing and carrying out their agricultural programs. USDA's Statistical Reporting Service is also lending a hand by helping the Pakistanis set up a data-gathering service.

SCIENTIFIC AND TECHNICAL EXCHANGES

A huge dairy surplus is a major problem in the United States, but we're not alone. Other developed nations like West Germany also have troublesome surpluses. By putting their heads together, U.S. and German scientists are coming up with creative uses for these surplus dairy products. OICD's scientific and technical exchange program is sponsoring these efforts to improve the dairy-farming economy in both nations.

U.S. agricultural scientists are now exchanging information on a wide variety of topics with their counterparts in over two dozen nations. Through these exchanges, the United States gains valuable new perspectives on its own problems, while sharing the fruit of its agricultural research with others.

Our scientific exchanges at OICD involve not only USDA scientists but those from agricultural universities and the private sector. In recent years, over 100 scientific exchanges have taken place annually, involving several hundred agricultural and social scientists from the United States and other nations. These exchanges are very cost effective ways to support U.S. farm production and trade. Other countries, universities, and private industry groups contribute roughly three dollars for every dollar spent by OICD.

Under the exchange program, scientists have:

- Obtained beneficial insects to prey on pests that destroy hundreds of millions of dollars' worth of crops.
- Exchanged samples of germplasm to help breed hardier and more versatile crops.
- Shared valuable economic and meteorological information useful in crop and trade forecasting.
- Supported U.S. farm exports by helping to remove nontariff trade barriers.



The following projects illustrate some of the great diversity in our exchange program:

- Scientific exchanges can serve a variety of purposes, including giving a boost to agricultural trade. A recent rise in agricultural trade with Algeria can trace some of its roots to U.S. willingness to share technology through our exchange agreement.
- To save the United States valuable research time and money, OICD has sponsored scientific exchanges with West Germany on acid rain. The West Germans are the world's leader in research on acid rain and have accumulated valuable data on the problem. In a related effort, we have also set up exchanges with the French on the response of plants to air pollution.
- U.S. swine breeders have great interest in the Chinese Meishan pig, an extremely prolific animal. With litters ranging from 12 to 16 piglets, well above the U.S. average, the Meishan pig has tremendous potential as breeding stock.
- In another exchange effort, U.S. scientists are benefiting from West German research on the "economic thresholds" concept in weed management. Scientists can use this concept to help farmers reduce their production costs by determining the best possible condition for applying herbicides.
- An exchange program with Mexico can yield valuable information on growing and processing a natural rubber called guayule. The United States could gain a strategic advantage by becoming self-sufficient in natural rubber and ending our dependence on foreign suppliers for this vital commodity.

INTERNATIONAL ORGANIZATION AFFAIRS

In a novel approach to boosting food production, farmers in Costa Rica are offered food rations to try new ways to raise crops. A World Food Program (WFP) project offers small subsistence farmers grain rations while they modernize their farming techniques to increase grain yields. It's a way to help break that age-old barrier to new technology—tradition. The farmers feel they can't lose if they are getting rations as a backup to their own efforts.

International organizations like WFP provide more than \$5 billion in agricultural assistance to developing countries yearly. It's OICD's job to act as USDA's liaison with WFP and other international organizations that deal with food and agriculture.

There are a number of benefits to U.S. cooperation with international organizations. The Food and Agriculture Organization of the United Nations (FAO), for example, is able to get things done that the United States could never do by itself for either financial or political reasons. Recently, FAO has helped in the control of African swine fever in Haiti and the Dominican Republic. This prevented the spread of this serious and costly disease to other countries, including the United States, where it could cripple the pork industry.

The United States works with international organizations concerned with agriculture to:

- Reduce hunger and malnutrition among the world's poor and the victims of wars and natural disasters
- Help low-income developing countries strengthen their economies and become better trading partners
- Maintain good cooperative relations with other governments and meet U.S. foreign policy goals.





Some of the most important organizations we work with are the:

- Food and Agriculture Organization of the United Nations (FAO)
- Organization for Economic Cooperation and Development (OECD)
- World Food Council (WFC)
- World Food Program (WFP)
- Inter-American Institute for Cooperation in Agriculture (IICA)

OICD also helps shape U.S. policy toward the World Bank, the International Fund for Agricultural Development (IFAD), and other international bodies. We help to promote U.S. agricultural interests worldwide by:

- Giving policy guidance to the governing bodies and technical committees of international food and agriculture organizations.
- Recruiting U.S. citizens for staffs of international organizations and for short-term consulting assignments.
- Reviewing the agricultural projects and policies of international development banks and advising their U.S. directors on agricultural loans.
- Reviewing food and agriculture papers prepared by the State Department and others for special U.N. meetings and conferences.
- Preparing U.S. position papers and nominating delegates to attend meetings of FAO, the World Food Council, and other international bodies.

Sharing Knowledge . . .

Sharing Hope

OICD's international programs help the United States as much as they help our neighbors overseas. Foreign research projects, for example, can help a corn farmer in Maryland as much as one in India. Just recently, research conducted in India on the corn-boring nematode helped U.S. scientists combat that pest when it attacked crops in Maryland. The technical assistance we gave Tunisia in dairy herd management resulted in the purchase of American breeding stock to improve Tunisian herds. An African student we helped through graduate school has achieved a high-ranking government position and remains a lifelong friend of the United States.

These are but a few examples of the concrete benefits that OICD programs have for the United States. But in many cases those benefits are intangible. When we share knowledge with others, sometimes we get more than a material return for our efforts. We get the satisfaction that because of what we do, somewhere in the world someone may be a little less hungry.

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